

Date: Monday, 7/9/2007 11:47:18 AM  
 User: Kim Johnston

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : TUBE ASSEMBLY
Job Number : 33365	
Estimate Number : 11527	
P.O. Number : N/A	Part Number : D3021041
This Issue : 7/9/2007 S.O. No. : N/A	Drawing Number : D3021/D3017
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : LARGE FAB ASSY	Drawing Revision : A/A
Previous Run : 25961	Material : N/A
Written By : <u>                    </u>	Due Date : 7/30/2007 Qty: 1 Um: Each
Checked & Approved By : <u>                    </u>	
Comment : Est. 01.10.23 New Issue SM	

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	M4130NT0750W049	4130 Tube .750 OD x.049W
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Comment: Qty.: 2.1875 f(s)/Unit Total : 2.1875 f(s)

4130 Tube .750 OD x.049W

Cut:- AISI 4130N tube, Ø3/4" x 0.049" wall batch: M100843

07/08/22

2.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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Comment: LARGE FABRICATION RESOURCE 1

1-Cut tube as per Dwg D3021

2-Drill tube as per Dwg D3021 using D3021-041T1

3--Deburr

07/08/22

3.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

07-08-23

4.0	M4130NS049	4130 Sheet .049 wall
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Comment: Qty.: 1.0500 sf(s)/Unit Total : 1.0500 sf(s)

4130 Sheet .049 wall

Cut:- AISI 4130N sheet, 18 gauge (0.050 thick)

batch: M11662

Identify For D3017-11 Cap

07/08/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☒ No ☐ DQA: DD Date: 07/09/12  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 7/9/2007 11:47:18 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 33365

Part Number: D3021041

Job Number:



Seq. #:

Machine Or Operation:

Description:

5.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1  
1-Cut end caps as per Dwg D3017

2-Weld as per Dwg D3021

A/R Steel Rod Batch: M15684

07/08/22

6.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

PD 07-08-23

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

PD 07-08-23

8.0

POWDER COATING

POWDER COATING



M10484



(IX)

Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

m. 07/08/27

9.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

m 07/08/28

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: GA

m 07/08/28

11.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/09/12

Job Completion



U 07-09-12

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

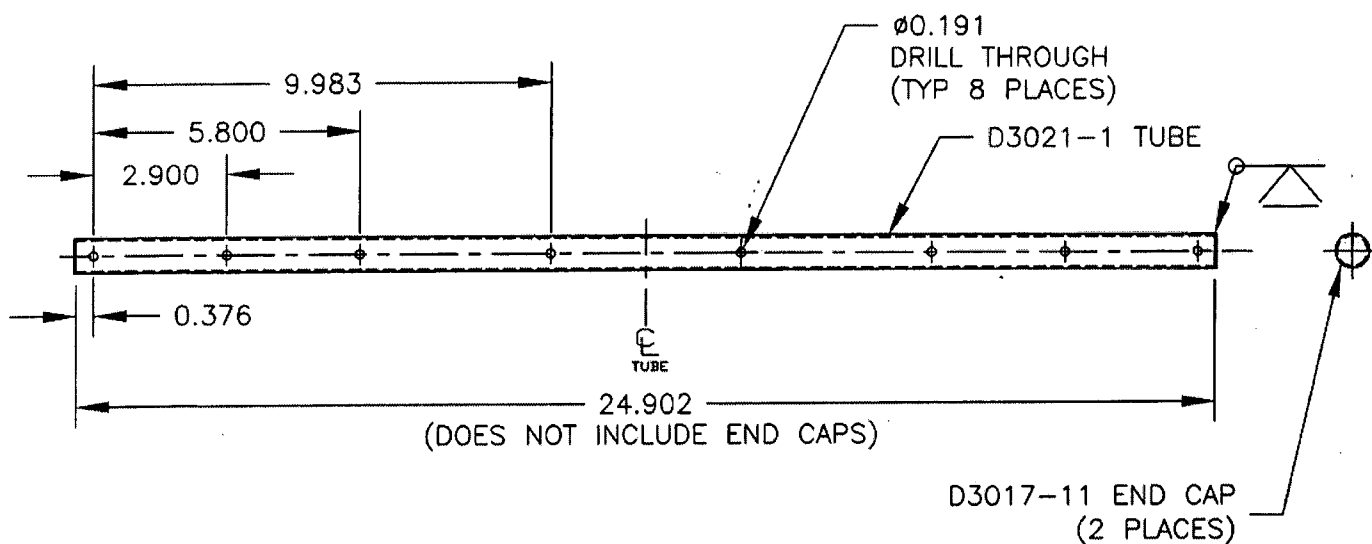
QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3021	REV. A SHEET 1 OF 1
DATE 01.05.18		TITLE TUBE ASSEMBLY	SCALE 1:4
A	01.05.18	NEW ISSUE	



D3021-041 TUBE ASSEMBLY  
(D3021-1 TUBE)

**NOTES:**

- 1) PART IS SYMMETRIC ABOUT CENTERLINE
- 2) MATERIAL: AISI 4130 TUBE,  $\phi 0.75$  DIA x 0.049 WALL (M4130N-T0750W049)
- 3) WELD PER DART QSI 004
- 4) FINISH: POWDER COAT GREY SANDTEX (REF 4.3.5.6) PER DART QSI 005 4.3
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

SHOP COPY  
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WORK ORDER  
NO. 33365

**RELEASED**  
01.05.30

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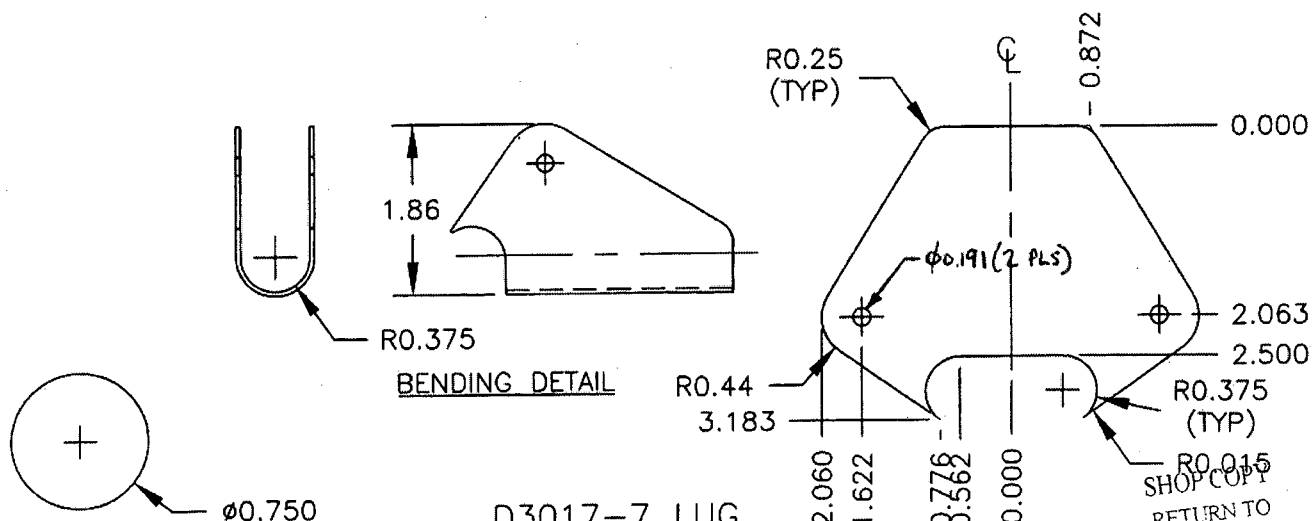


DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3017	REV. A SHEET 1 OF 2
DATE 01.05.18		TITLE BACK FRAME ASSEMBLY	SCALE 1:1
A	01.05.18	NEW ISSUE	

QTY	PART No.	DESCRIPTION	MATERIAL
X	D3017-041	BACK FRAME ASSEMBLY	N/A
1	D3017-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3017-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3017-5	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
3	D3017-7	LUG	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3017-11	END CAP	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)

#### NOTES

- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES.
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.



D3017-11 END CAP  
SCALE 1:1

D3017-7 LUG  
SCALE 2:1

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01.05.30

FLAT PATTERN  
PART IS SYMMETRIC ABOUT CENTERLINE  
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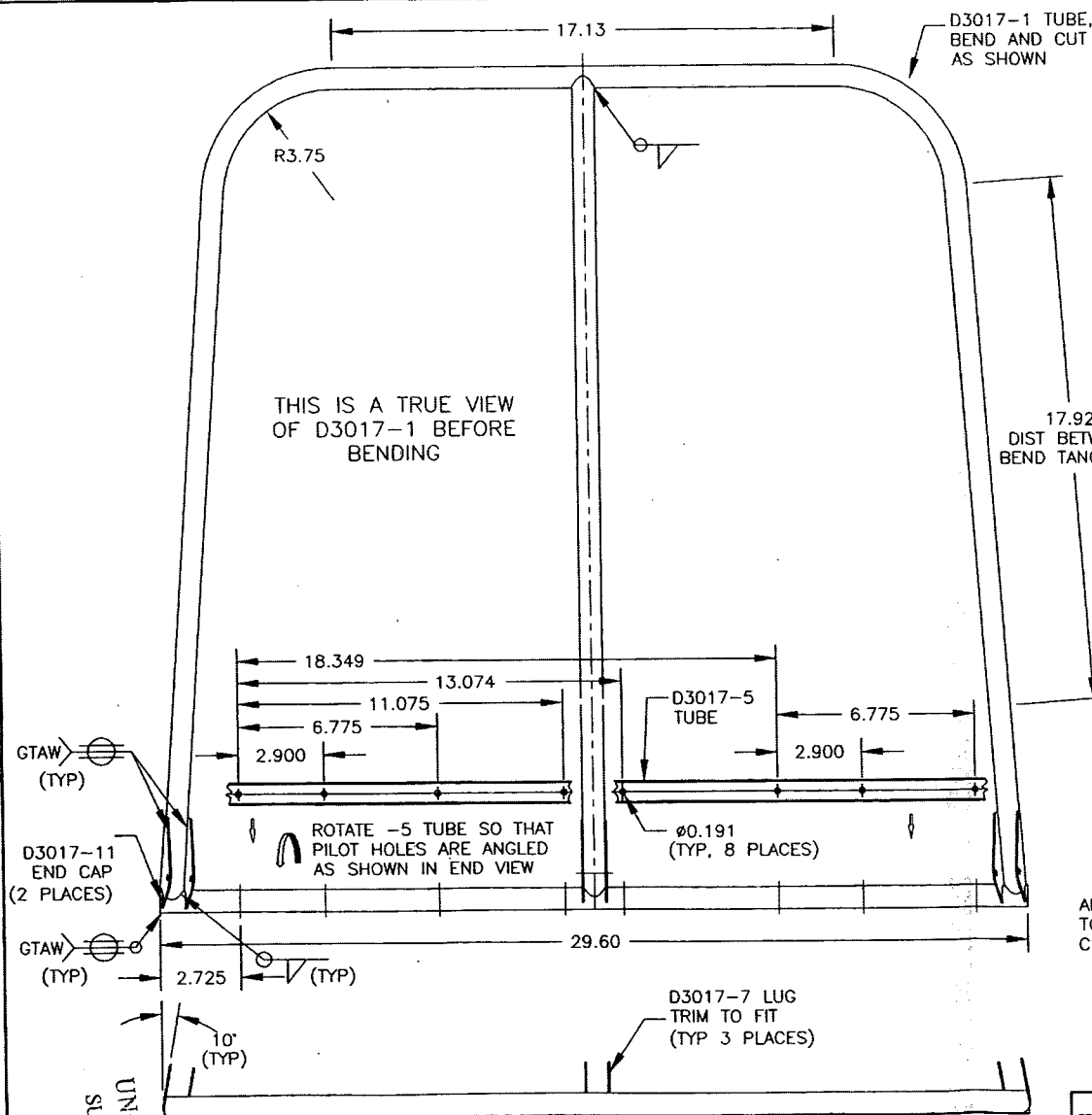
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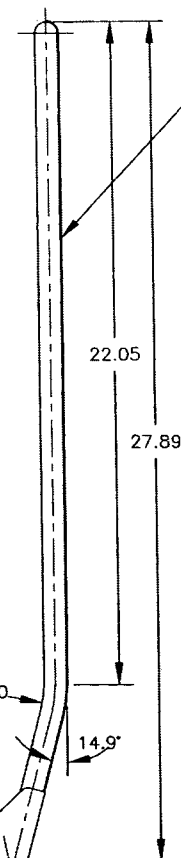
NO.

33365



17.92  
DIST BETWEEN  
BEND TANGENTS

26.2°  
ANGLE  
TO HOLE  
CENTERLINE



DRILL Ø0.128 HOLES TO LINE UP  
WITH D3023-1 BACK PANEL

R0.38  
(TYP)

21.30

27.14

R4.00

14.9°

D3017-3 TUBE

D3017-041 BACK FRAME ASSEMBLY  
(D3017-1 TUBE, D3017-5 TUBE)

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CHECKED <i>CP</i>	APPROVED <i>CP</i>	DRAWING NO. D3017	REV. A SHEET 2 OF 2
DATE 01.05.18	TITLE BACK FRAME ASSEMBLY	SCALE 1:4	

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